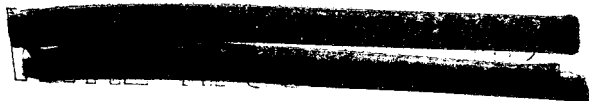


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June 1961

JOINT PHOTOGRAPHIC INTELLIGENCE REPORT

CONSTRUCTION ACTIVITY AT HERRINGBONE SAM FACILITIES MOSCOW, USSR



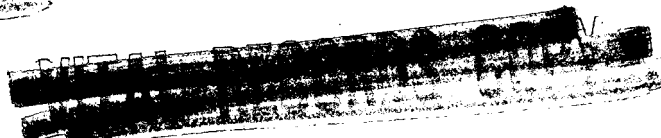
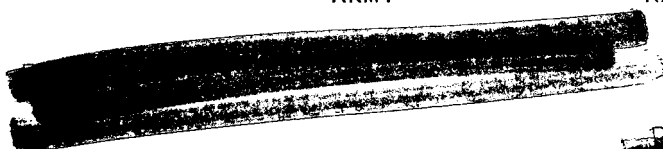
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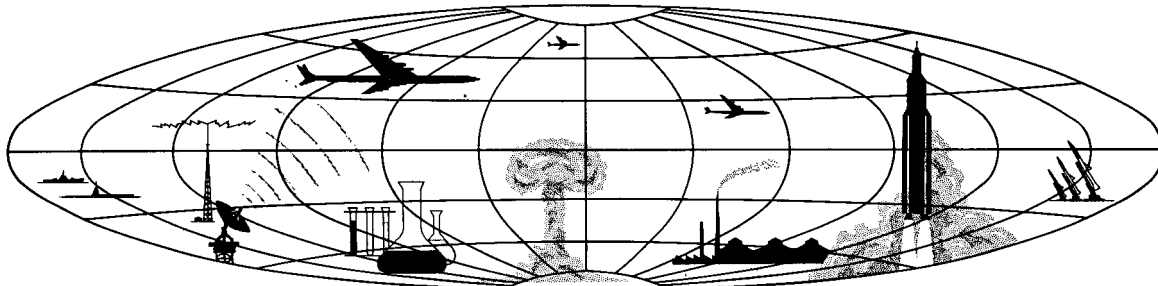


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JOINT PHOTOGRAPHIC INTELLIGENCE REPORT

CONSTRUCTION ACTIVITY
AT HERRINGBONE SAM FACILITIES
MOSCOW, USSR

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PREFACE

This joint photographic intelligence report was prepared by the Army, Navy, and Central Intelligence Agency in response to CIA/PIC/E/R62/59, CIA/SI/R38/59 and CIA/RR/HTA/E/R5/59 requesting an analysis of new construction at Moscow Herringbone sites and associated facilities.

Evidence of new construction at two Herringbone sites and the Istra Missile Assembly Plant appeared on the small-format aerial photography used in this report. However, the scale of the photography and the obliquity of the major portion of the coverage limited the interpretation and analysis of the evidence. Measurements found in this report are only approximate in most instances because of the sparse technical data associated with such photography. Despite these limitations, most of the construction at these sites could be identified and a chronology of its development established.

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LOCATION OF MOSCOW SAM SITES C-28 AND E-28

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INTRODUCTION

Aerial photography taken between [REDACTED] reveals that additions or modifications were being made at two Moscow Herringbone SAM sites, at a storage facility near one of the sites, and at the Istra Missile Assembly Plant. 25X1D

At SAM site C-28, foundations have been added at several places within the herringbone pattern. A group of tents was also found at C-28. Warehouse construction was under way at a storage facility near C-28 when first photographed in [REDACTED]. Buildings were subsequently added and a railroad spur into the facility was still under construction as of [REDACTED]. 25X1D

At the Istra Missile Assembly Plant, located approximately 3.5 nm north of the storage facility, four buildings have been added since [REDACTED]. 25X1D

Aerial photography also reveals that several foundations, similar in appearance to those at C-28, have been constructed at scattered points within the herringbone pattern at site E-28. In addition, one set of photographs reveals that groups of spherical objects which were present at E-28 in [REDACTED] had been removed a few months later. 25X1D

HERRINGBONE SAM SITE C-28 AND RELATED FACILITIES

Launch Area

New construction (items A to D, Figure 1) in the launch area of Herringbone SAM site C-28 was first apparent on aerial photography dated [REDACTED]. A group of foundations (item A) is located in an area between adjacent launch roads. This area also contains a large earth-covered bunker which is similar to those known to exist at all Herringbone sites observed thus far. The group contains three foundations, probably 25X1D

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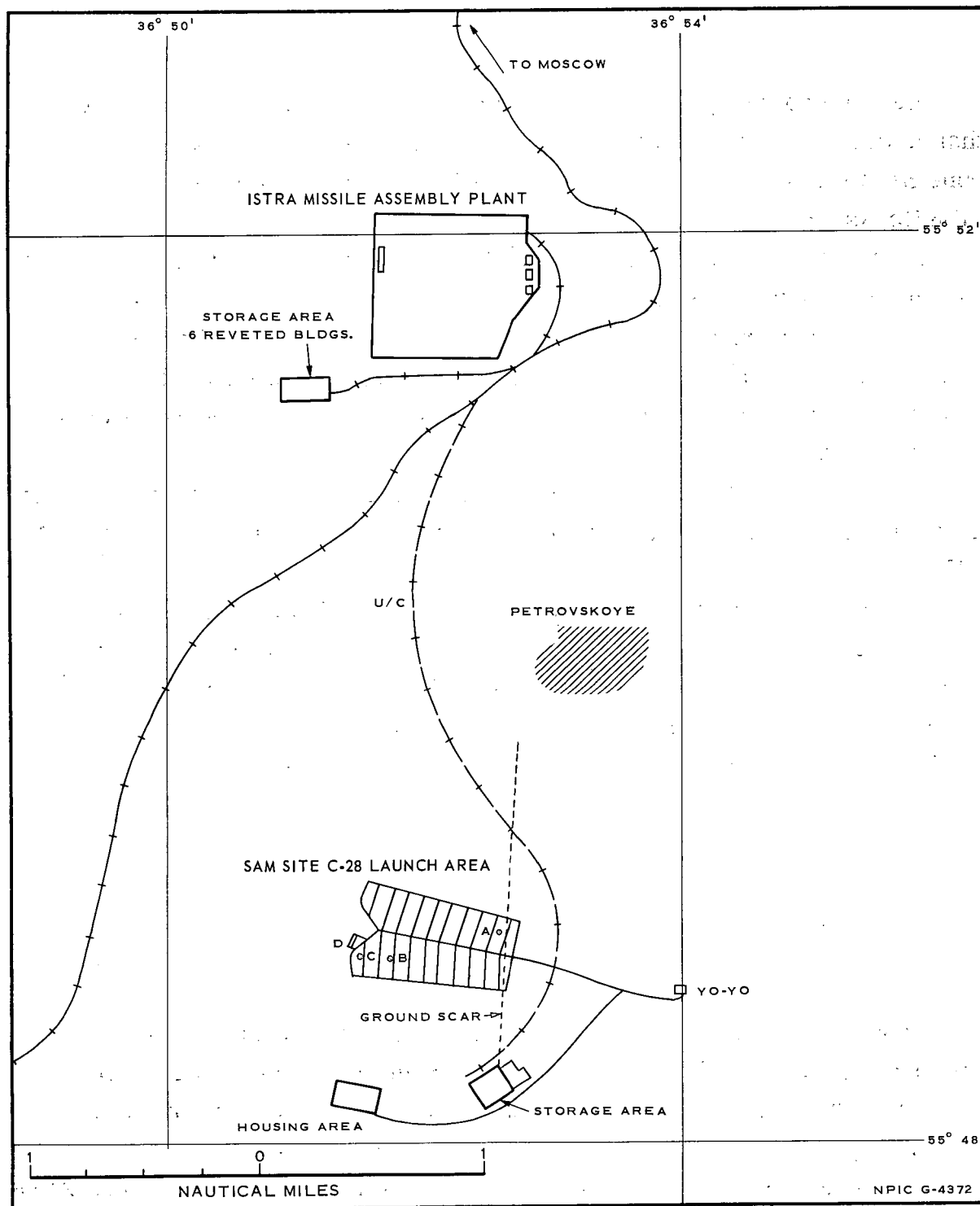


FIGURE 1. LOCATION OF NEW CONSTRUCTION, (RED OVERPRINT) HERRINGBONE SAM SITE C-28. This shows location of C-28, adjacent storage area and Istra Missile Assembly Plant.

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25X1D

25X1D

earthen, [REDACTED] square and not more than [REDACTED] high. They are aligned end-to-end [REDACTED] apart and placed parallel and adjacent to a path that leads from an entrance in the side of the bunker to the adjacent launch road. The central portion of the top of each foundation is probably surfaced with gravel or concrete. A narrow graveled or concrete apron surrounds the group. Items B and C (Figures 1 and 2) are similar in appearance and construction and are also located between launch roads.

25X1D

Opposite item A, on the other side of the path leading from the bunker, there appears to be a foundation similar to the other three. Opposite items B and C, on the other side of the path leading from the bunker, there is a small irregularly-shaped unidentified object.

25X1D

Item D, 22 tents, each approximately [REDACTED] square and arranged in parallel rows of 11 each, is located at the outer edge of the V-shaped end of the herringbone pattern adjacent to one of the service roads (Figures 1 and 2). At the end of each row there is a structure similar to the tents, though slightly taller. The area adjacent to the tents is paved and connected to the nearest road in the herringbone pattern by two narrow paths. Item D is probably a camp for troops in training at site C-28.

25X1D

25X1D

Aerial photography dated [REDACTED] revealed no changes in the camp area since [REDACTED]

Storage Area

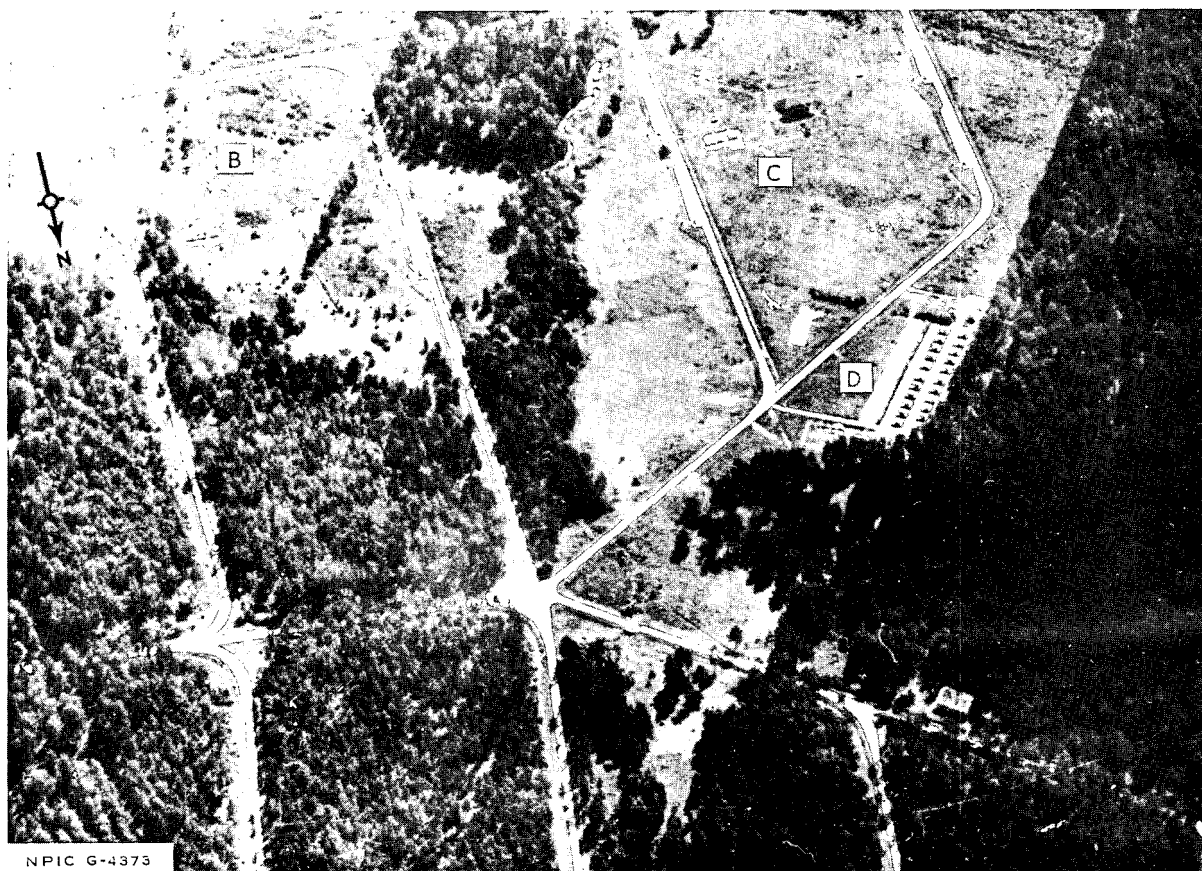
A storage area (Figure 3 and 4) approximately 1,500 feet south of SAM site C-28 was first observed on poor resolution aerial photography on [REDACTED]. The entire area is probably fenced, though only a portion of the fence can be traced. A ground scar (Figure 1) extends northward from the area, crosses the C-28 launch area, and can be traced to a point just north of the railroad right of way where photographic coverage ends.

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25X1D

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FIGURE 2. PORTION OF SAM SITE C-28. This shows new construction (items B, C, and D) as it appeared on photography.

The identification and analysis of the construction in the storage area which follows is arranged chronologically so that the reader may judge the pace at which the construction was taking place.

25X1D

On [REDACTED] the storage area was first observed containing a repair shop (Figure 3, Item 1) and 9 warehouses, several of which appeared to be under construction (items 2 through 10). Nothing further could be definitely distinguished at this time.

25X1D

By [REDACTED] the warehouses had been completed. A water tower (item 11) and several small unidentified buildings could also be observed.

25X1D

In mid [REDACTED] a clearing through the woods just east of Herringbone site C-28 (identified [REDACTED] as a railroad right of way under construction to the storage area) was observed for the first time.

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25X1D On [REDACTED] photography revealed no apparent change from previous coverage.

25X1D On [REDACTED] a clearing northeast and adjacent to the storage area was observed for the first time. In addition, a railroad right of way could be traced from the clearing to a point just north of C-28 where photo coverage terminated.

25X1D On [REDACTED] it appeared that at least three storage buildings were under construction in the cleared area observed on the previous month's coverage.

25X1D On [REDACTED] the first good photographic coverage of the area was obtained and it revealed that there were actually four storage buildings (items 32, 33, 34, and 35) under construction. The roof of item 32 was already complete. A probable transloading building (item 36) was under construction near the end of the railroad right of way. In addition, a three-track rail yard (item 38) approximately 1,500 feet long was being constructed in the adjacent right of way. Numerous small support buildings (items 12-19, 21-31) could be clearly distinguished at this time.

25X1D On [REDACTED] the storage buildings appeared unchanged. A small section of the roof on the transloading building had been completed. A new building (item 20) with a roof 75 percent complete, was observed for the first time.

25X1D On [REDACTED] the roof on one storage building (item 33) had been completed. It was not possible to determine the progress on any of the other buildings.

25X1D On [REDACTED] the roof on item 34 was approximately 15 percent complete. The roof of the transloading building (item 36) was a little over 50 percent complete.

25X1D On [REDACTED] final coverage of the area showed that the roofs on items 34 and 36 had been completed. One storage building (item 35) was still in the early stages of construction. It could also be determined that the railroad right of way (item 38) extends northward and joins a rail line that passes just south of the Istra Missile Assembly Plant. The scale

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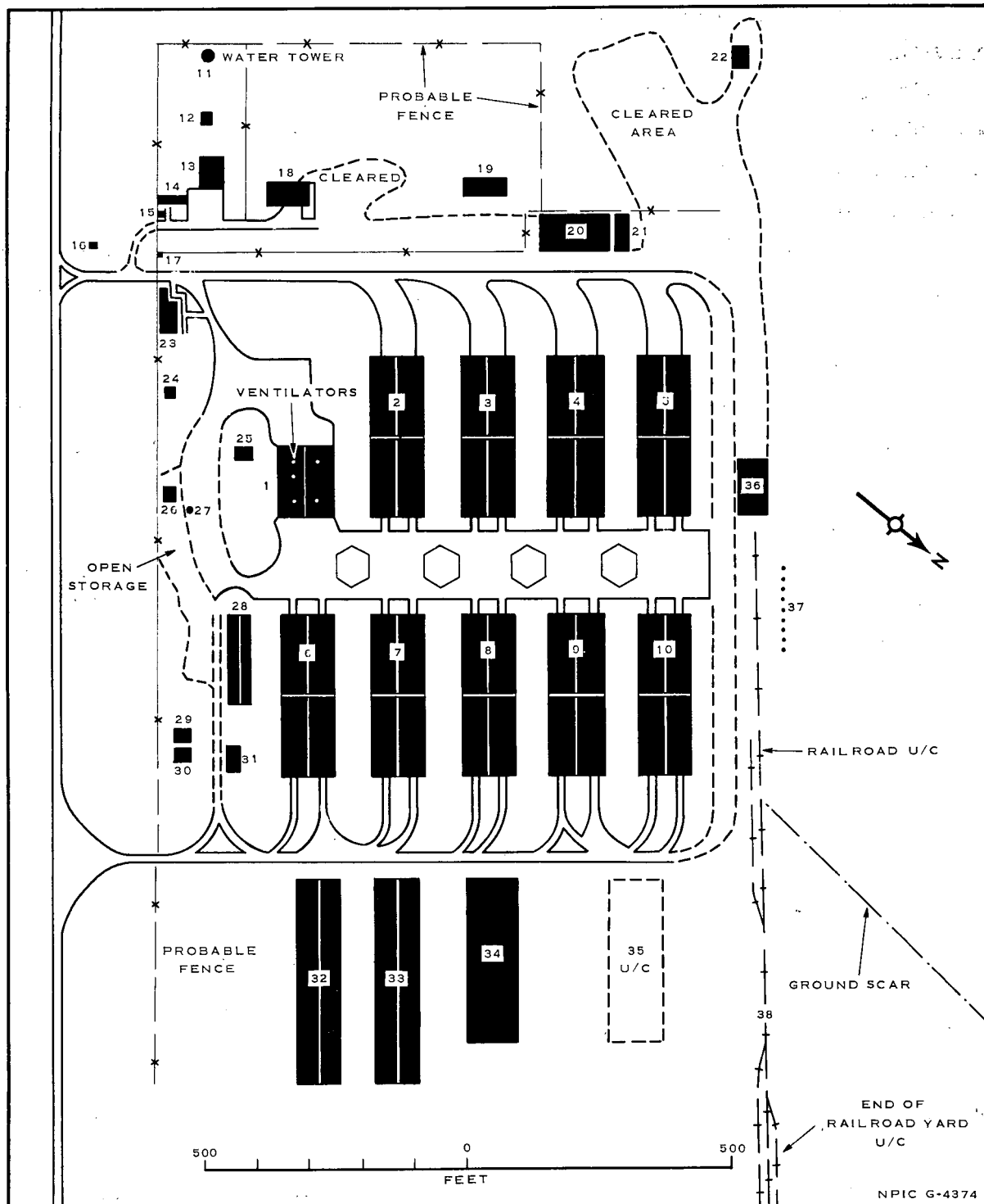


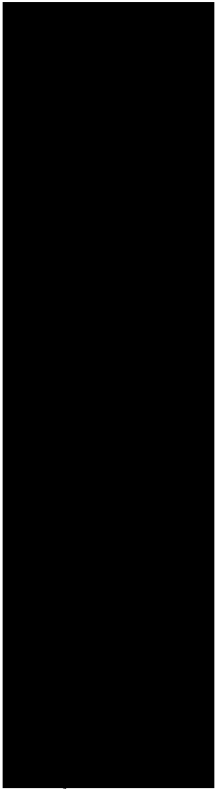
FIGURE 3. STORAGE AREA ADJACENT TO SITE C-28. Drawing based on Figure 4 with additions to

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TABLE OF STRUCTURES IN STORAGE AREA

Item No	Dimensions L x W	Description*
1		Drive-through probable repair shop. Gable roof with 5 ventilators.
2-10		Gable-roofed warehouse with two doors and driveways at each end.
11		Water tower.
12		Flat-roofed building.
13		Hip-roofed probable administration building.
14		Flat-roofed building.
15		Building.
16		Small shed.
17		Probable sentry post.
18		Two story hip-roofed administration building.
19		Flat-roofed building.
20		Gable-roofed building.
21		Shed-roofed building.
22		Flat-roofed building.
23		Hip-roofed building with gable-roofed ell.
24		Shed.
25		Gable-roofed building.
26		Shed.
27		U/I object.
28		Gable-roofed building.
29		Flat-roofed shed.
30		Flat-roofed shed.
31		Flat-roofed building.
32, 33		Gable-roofed storage buildings, open sides.
34		Gable-roofed storage building, open sides.
35		Building U/C.
36		Probable transloading building.
37		Nine small U/I objects. These may be storage tanks.
38		Railroad yard U/C.

* All buildings are one story unless described otherwise. Roof type is given when possible.

and obliquity of the photography precluded determining whether or not track had been laid.

Istra Missile Assembly Plant

New construction in the plant area (Figure 5) was first observed on photography dated [REDACTED]. It consisted of foundations for three buildings, each approximately 215 by 110 feet aligned along the eastern side, and one building [REDACTED] feet along the western side of the area.

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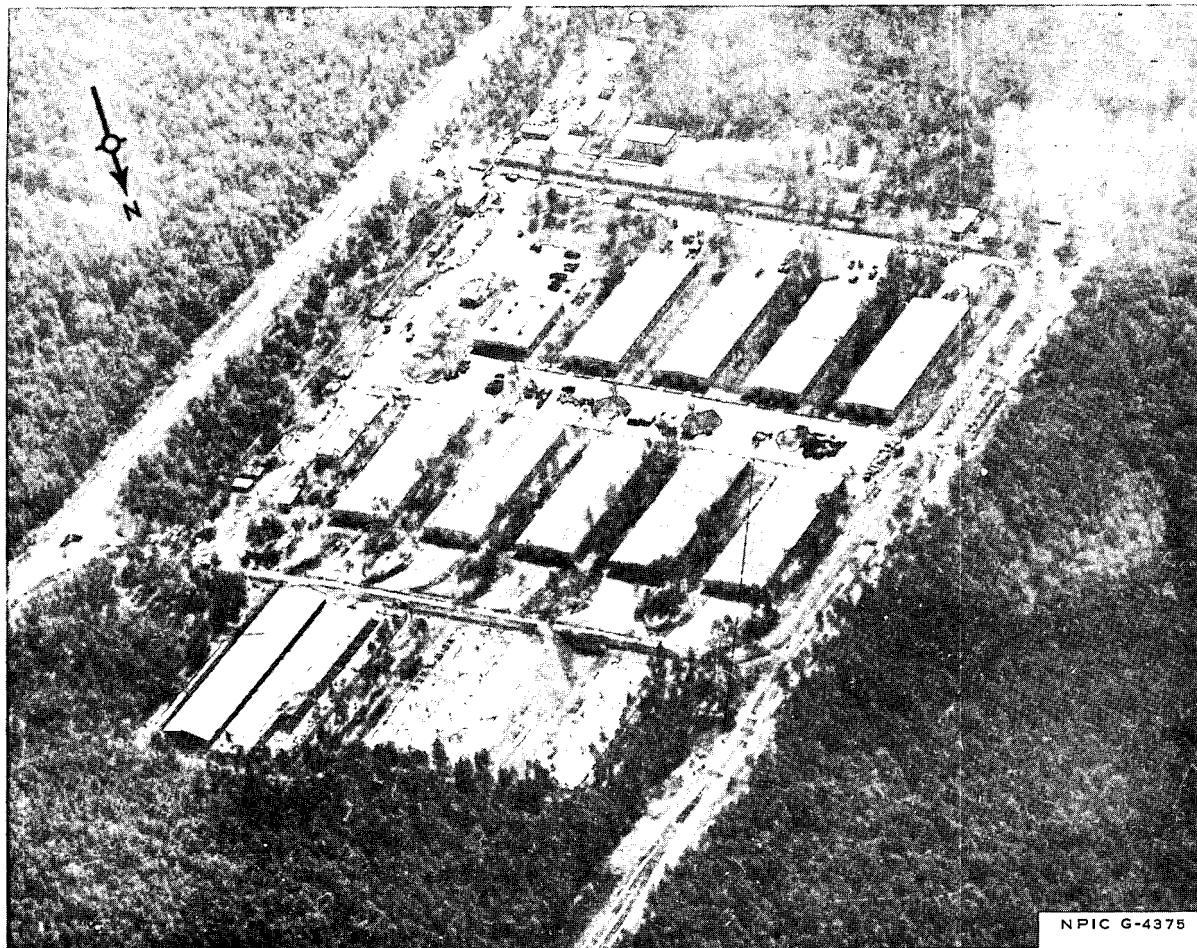


FIGURE 4. STORAGE AREA NEAR SAM SITE C-28 AS IT APPEARED ON [REDACTED] PHOTOGRAPHY.

[REDACTED] two of the three buildings on the eastern side were roofed. The building on the west side was not covered by photography at this time but on [REDACTED] the roof appeared about 85 percent complete. By [REDACTED] the roof had been completed and the roof of the third building was 50 percent complete. The next photographic coverage, [REDACTED] revealed that all the buildings had been roofed.

All the buildings are gable roofed. The three on the east are probably storage sheds; the one on the west is evidently a vehicle shed since the east side of it is open and grease racks have been built nearby.

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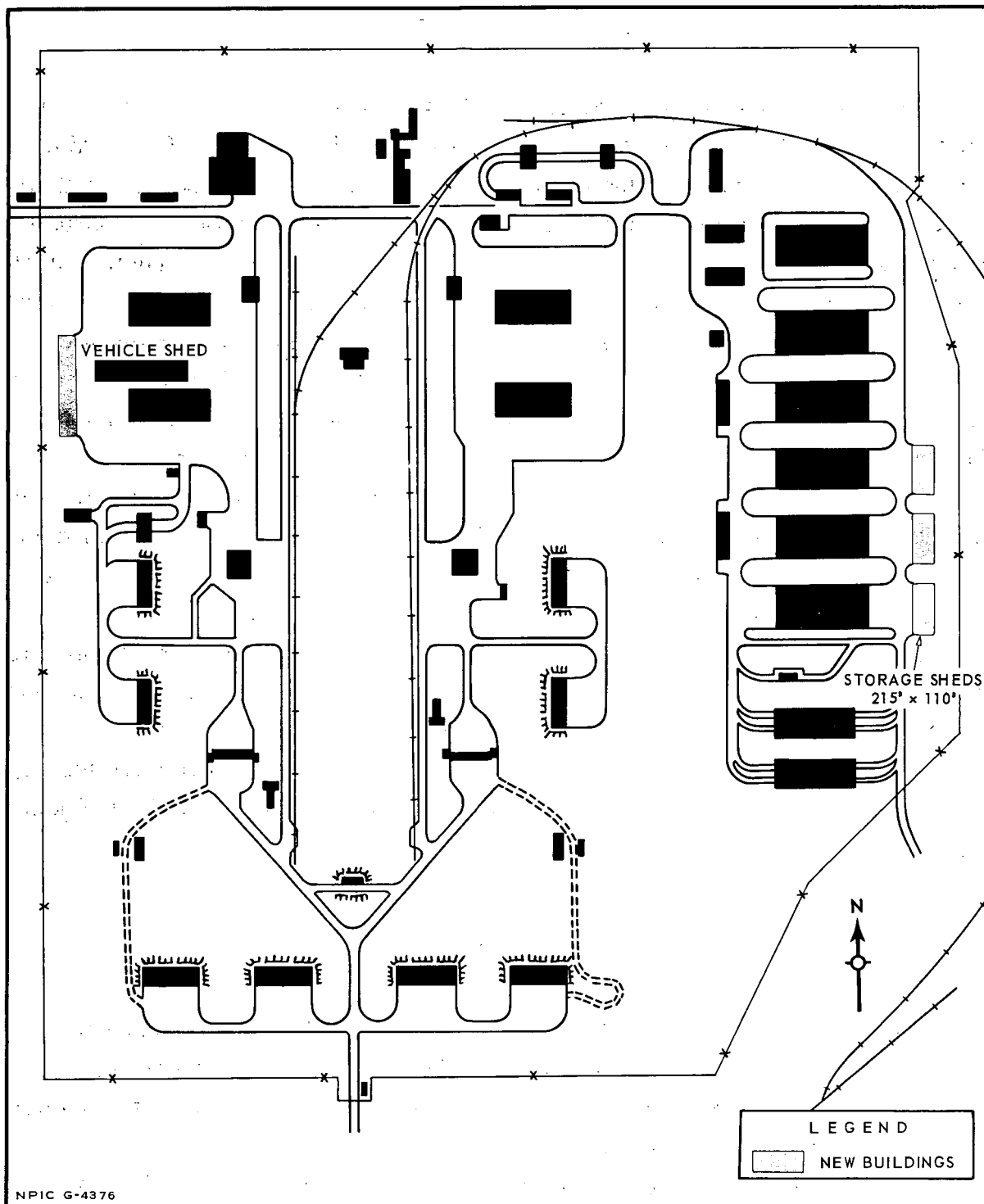


FIGURE 5. ISTRA MISSILE ASSEMBLY PLANT WITH NEW CONSTRUCTION INDICATED IN RED.

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HERRINGBONE SAM SITE E-28

New construction (Figure 6) was first observed at the launch area of Herringbone SAM site E-28 on aerial photography dated [REDACTED] It consisted of groups of foundations and spherical objects located at three separate places within the herringbone pattern. Each group was situated near one of the earth-covered bunkers that lies between alternate launch roads and all three were on the same side of the center longitudinal service road. However, one group of foundations, instead of being located between the large bunker and an adjacent launch road as was the case with the other two at E-28 and all those observed at C-28, was found between the bunker and the adjacent exterior longitudinal service road.

Oblique photography precluded a detailed examination but it was determined that two groups consisted of three spherical objects on foundations aligned close together, the other group consisted of two spherical objects on foundations and a foundation for possibly a third sphere.

25X1D Photography of [REDACTED] revealed that the spherical objects had been removed from at least two of the groups and that foundations similar to those found at C-28 remained. The third group was not covered by this photography. On [REDACTED] one of the groups observed on [REDACTED] was observed again and the spherical objects were still missing.

25X1D

CONCLUSIONS

The foundations at SAM sites C-28 and E-28 are probably used for the same purpose since they appear to be of similar construction. Since a military type camp is present at C-28 the foundations may be associated with some type of training operation.

The storage area is probably associated with the Istra Missile Assembly Plant although no missile or missile-related equipment can be iden-

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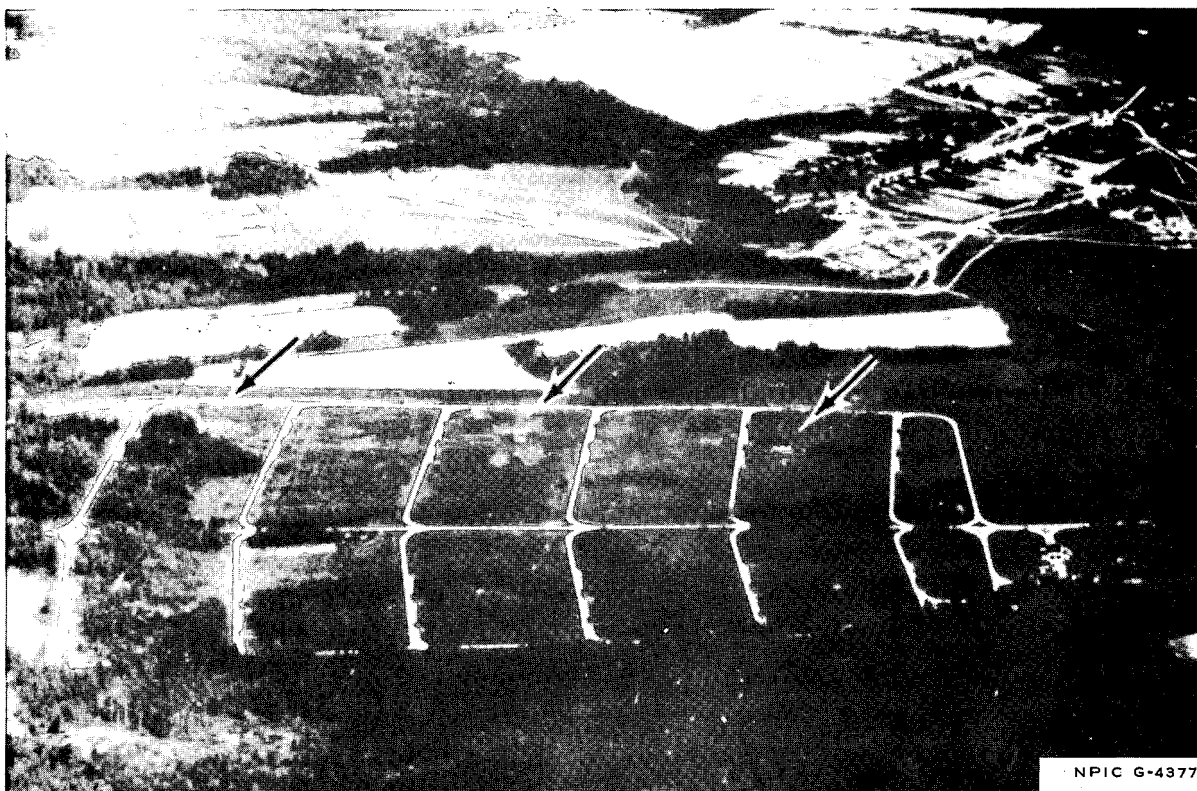


FIGURE 6. SAM SITE E-28. Photograph shows spherical objects as they appeared in [REDACTED]

25X1D

25X1D
tified on the photography covering the storage area. The rail spur apparently will connect the two installations. Construction has not been on a crash basis at either place. After [REDACTED]

25X1D
[REDACTED] one of the 4 new storage buildings in the storage area was still incomplete. The progress of construction at the plant has been even slower. Foundations for 4 buildings were first observed in [REDACTED] months later in [REDACTED] one building was still incomplete. No correlation between the construction at the plant and the storage area can be made. 25X1D

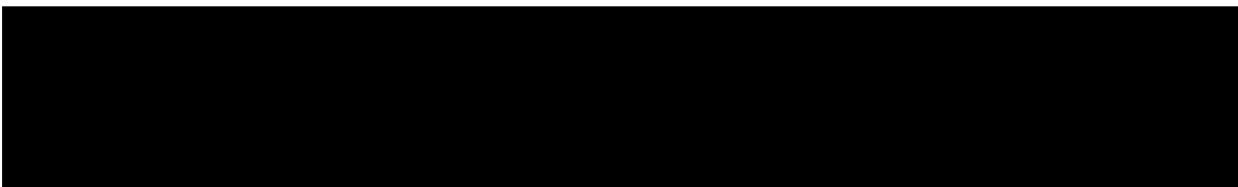
The construction of foundations at the two SAM sites and the construction of new buildings at the other two installations do not appear to be related.

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MAPS or CHARTS

ACIC. SAC. US Air Target Chart, Series 100, 0167-9764-100A (Prov),
1st ed, Oct 56, scale 1:100,000 (S)

ACIC. SAC. US Air Target Chart, Series 100, S0167-9833-100A
(Prov), 1st ed, Feb 57, scale 1:100,000 (S)

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